

LISTING OF CLAIMS:

1. (Original.) A method for mixing fluidized particles with a fluid hydrocarbon feed stream in a feed injection zone of a fluid catalytic cracker which comprises:

- (a) passing fluidized particles to a particle conduit;
- (b) conducting the fluidized particles from the particle conduit to the feed injection zone containing a non-circular conduit provided that the particle conduit and the non-circular conduit have a substantially uniform cross-sectional area; and
- (c) injecting fluid hydrocarbon feed into the feed injection zone through a plurality of feed injectors located upon said non-circular conduit.

2. (Currently amended.) The method of ~~any preceding~~ claim 1 wherein the non-circular conduit is ellipsoidal, rectangular, square or two parallel sides with semi-circular or ellipsoidal ends.

3. (Currently amended.) The method of ~~any preceding~~ claim 2 wherein the non-circular is ellipsoidal.

4. (Currently amended.) The method of ~~any preceding~~ claim 2 wherein the non-circular conduit is rectangular.

5. (Currently amended.) The method of ~~any preceding~~ claim 1 wherein the feed injectors are arranged in a plane perpendicular to the direction of axial flow of catalyst in the injection zone.

6. (Currently amended.) The method of ~~any preceding~~ claim 5 wherein the feed injectors are injector nozzles.

7. (Currently amended.) The method of ~~any preceeding~~ claim 6 wherein the direction of flow from the feed nozzle is perpendicular (90 degrees) to the axial flow of catalyst.

8. (Currently amended.) The method of ~~any preceeding~~ claim 6 wherein the feed injector nozzles at angles of from 20 to 90 degrees in the direction of flow.

9. (Currently amended.) The method of ~~any preceeding~~ claim 1 wherein the feed injection zone has optimal penetration of feed.

10. (Currently amended.) The method of ~~any preceeding~~ claim 9 wherein the feed injected into the feed injection zone has a penetration equal to $0.33D_{\text{effective}}$.